

Workshop: Ecosystem Amendment Framework

Agenda Item 7

Aug 23, 2018



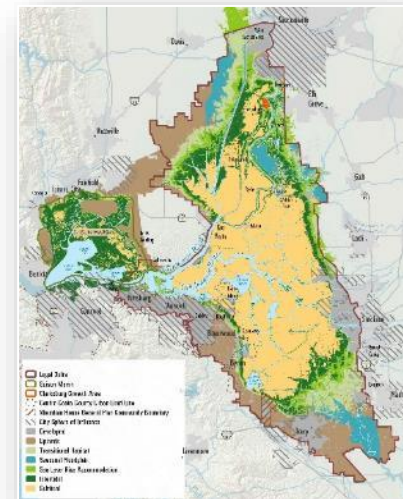
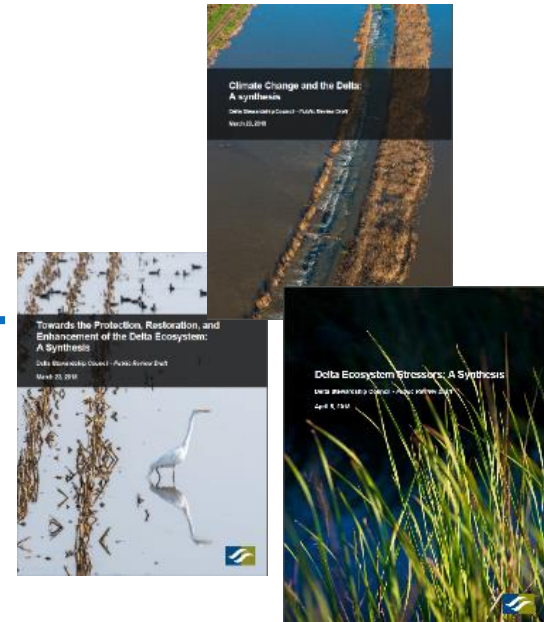
Overview of the Amendment Process

Outreach and Coordination

Science Synthesis Papers

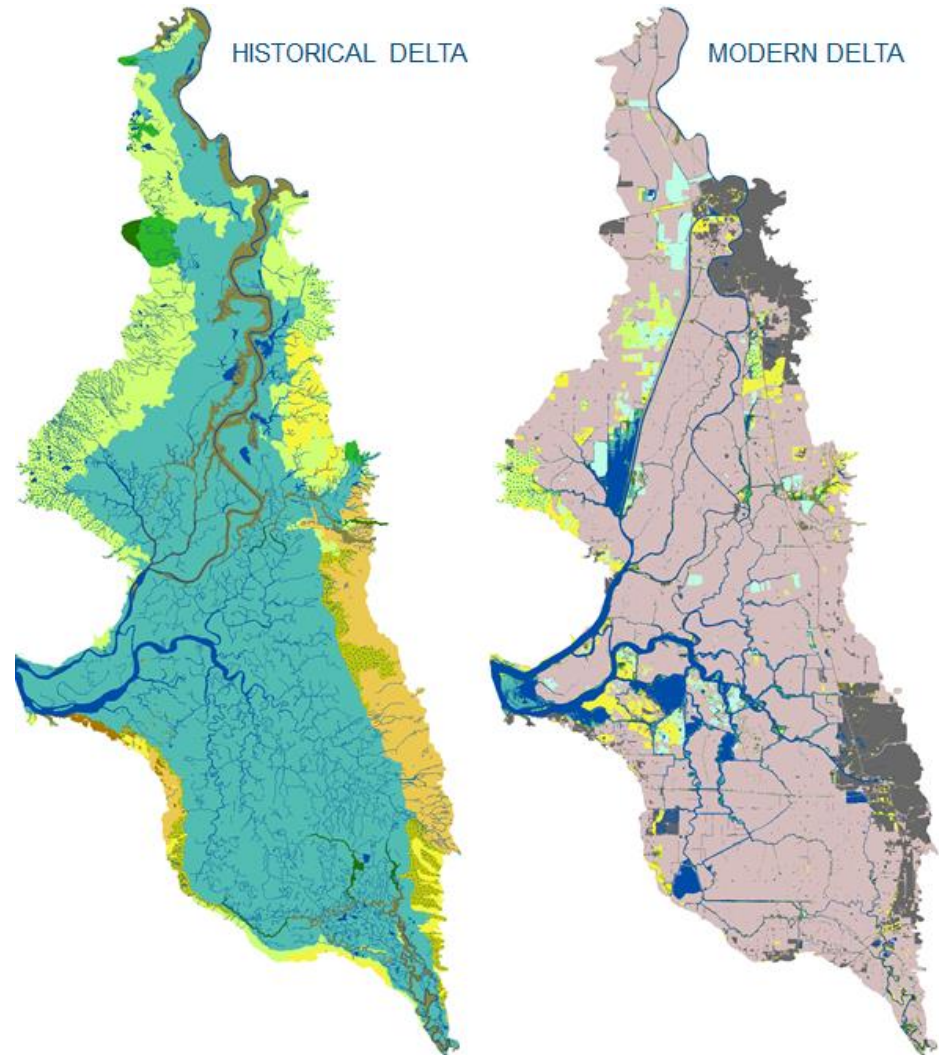
Technical Analyses

- Refinement of Policies, Recommendations, and Performance Measures
- Updating the Chapter Narrative

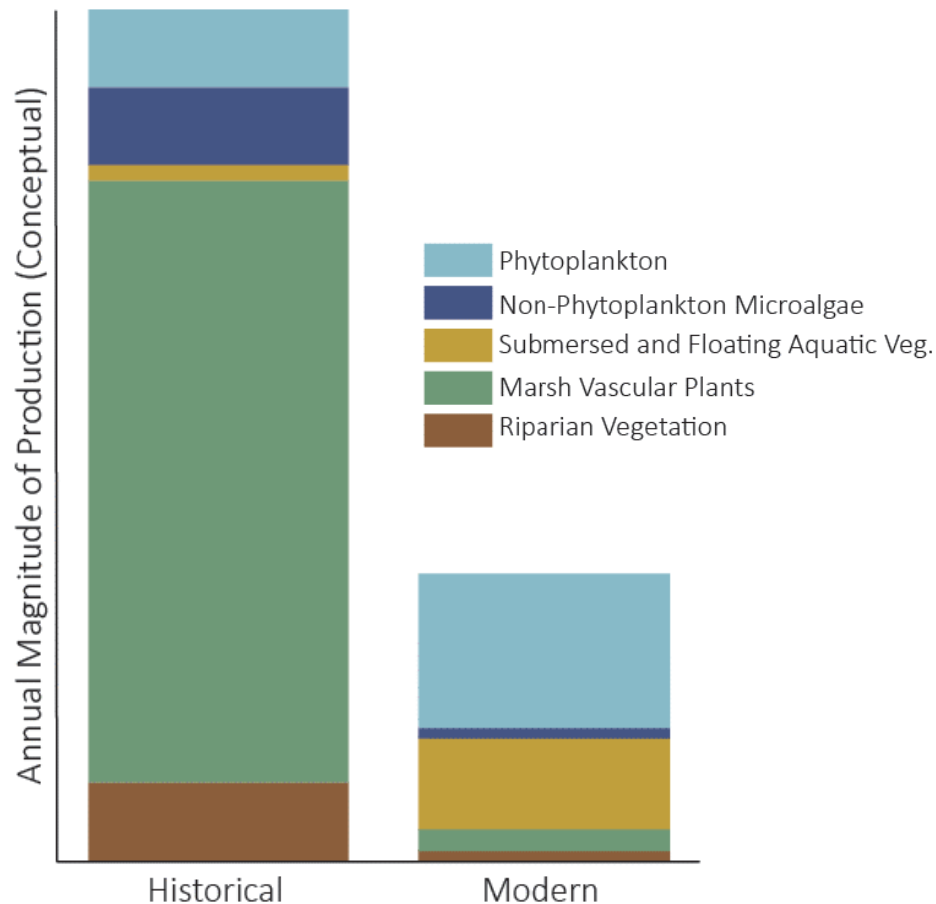


Modern Delta is heavily altered

- Land conversion, channel simplification, subsidence
- Functions and connections between land and flows have been lost
- Marsh wetlands = 98% loss
- Dendritic channels = 93% loss
- Seasonal flooded = 85% loss
- Riparian = 60% loss



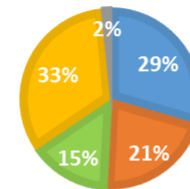
Ecological space, connectivity, and productivity - priorities to address



Source: Robinson et al. 2016

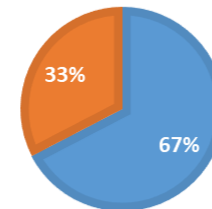
LEGAL DELTA: PROJECT TYPES

■ Preservation ■ Mitigation ■ Restoration ■ Ecosystem Services ■ Green Infrastructure



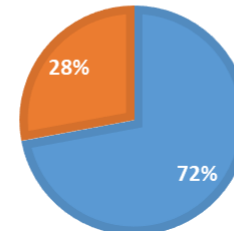
LEGAL DELTA: PROJECTS IN AGRICULTURE

■ Yes ■ No



LEGAL DELTA: TIDAL OR FLUVIAL CONNECTIVITY

■ No ■ Yes



Delta Reform Act 2009:

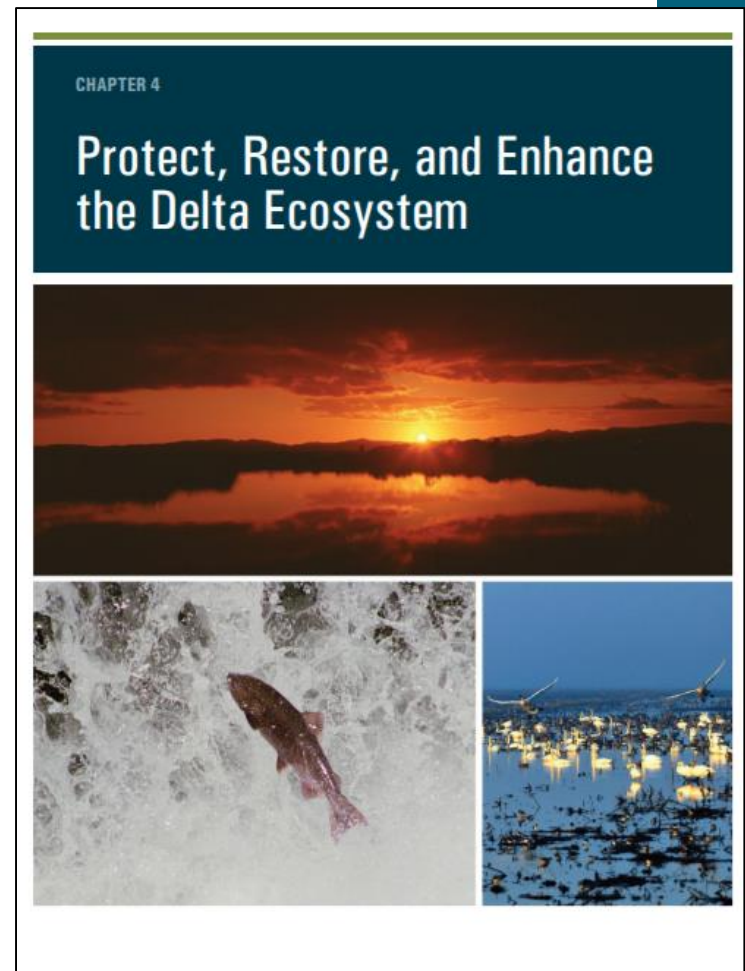
- **Coequal Goals**
- **Target Characteristics:**
 - Viable populations of native resident and migratory species
 - Functional corridors for migratory species
 - Diverse and biologically appropriate habitats for ecosystem process
 - Reduced threats and stresses on the Delta Ecosystem
 - Conditions conducive to meeting or exceeding recovery plans and salmon doubling goals
- **Strategies to achieve characteristics:**
 - Restore large areas of interconnected habitats within the Delta and its watershed by 2100.
 - Establish migratory corridors for fish, birds, and other ecosystems.
 - Improve water quality for drinking, ag, and ecosystem
 - Restore habitat necessary to avoid a net loss of migratory bird habitat and, where feasible, increase migratory bird habitat to promote viable populations of migratory birds.
- **Use best available science**
- **Quantified or measurable targets**
- **Science-based, transparent, and formal adaptive management strategy**

Delta Plan Chapter 4- Vision of a Restored Delta:

“Achieving the coequal goal of ecosystem protection, restoration, and enhancement means successfully establishing **a resilient, functioning estuary and surrounding terrestrial landscape capable of supporting viable populations of native resident and migratory species with diverse and biologically appropriate habitats, functional corridors, and ecosystem processes.**”

Current Core Strategies

- Create more natural functional flows
- Restore habitat
- Improve water quality to protect the ecosystem
- Prevent introduction of and manage non-native species impacts
- Improve hatcheries and harvest management



Water Code Section: 85020 & 85054:

Protect and enhance the unique cultural, recreational, and agricultural values of the California Delta as an evolving place

Important Context - Delta Plan Existing Policies

Chapter 2

- **GP 1 (a)(2-4)– Mitigation and Monitoring Reporting Program (MMRP); Best Available Science; Adaptive Management**

Maintain Delta Agriculture

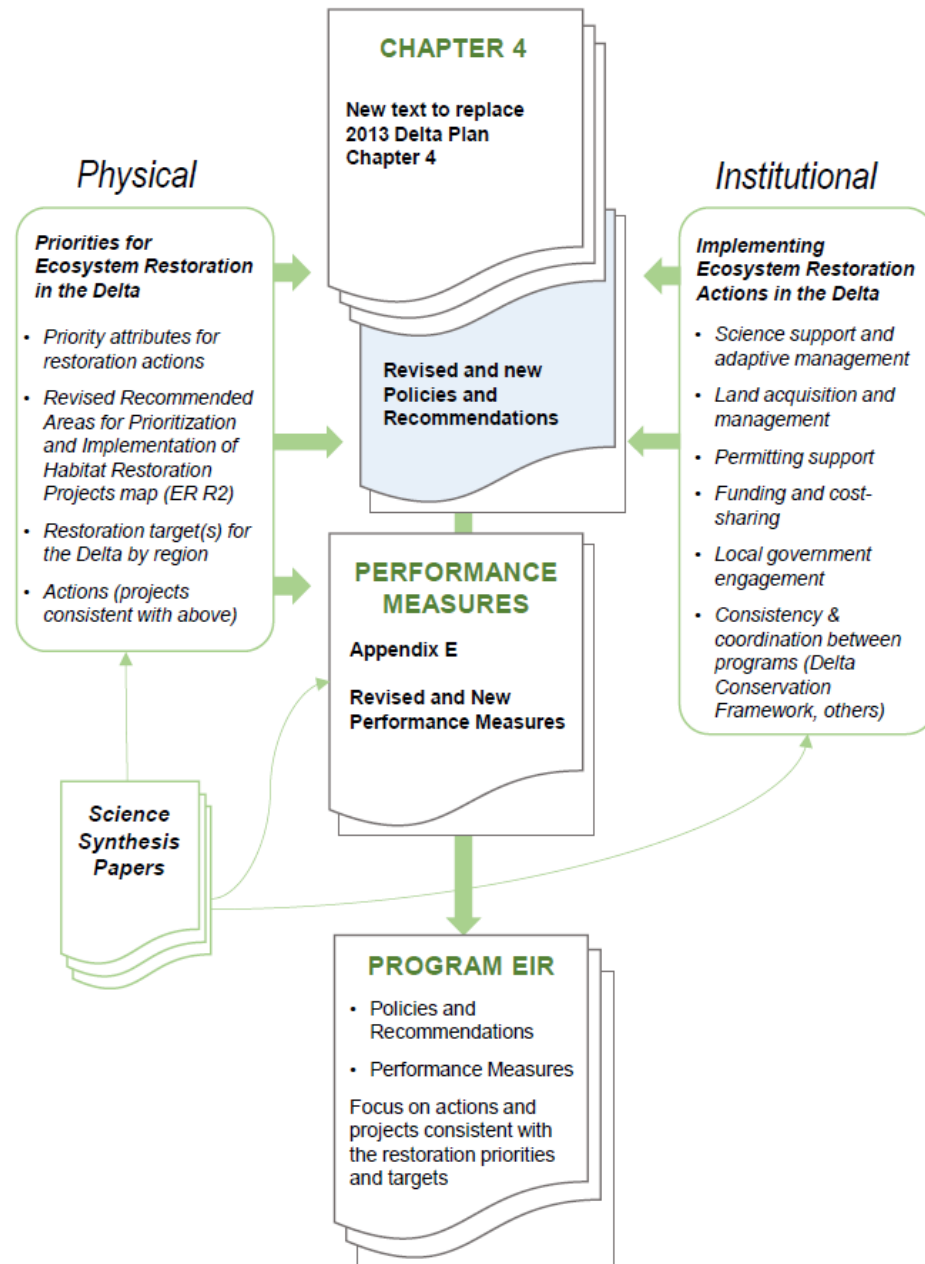
- **DP P1 – Locate urban development wisely**
- **DP P2 – Respect local land-use when siting water or flood facilities or restoring habitats**

Amendment Blueprint

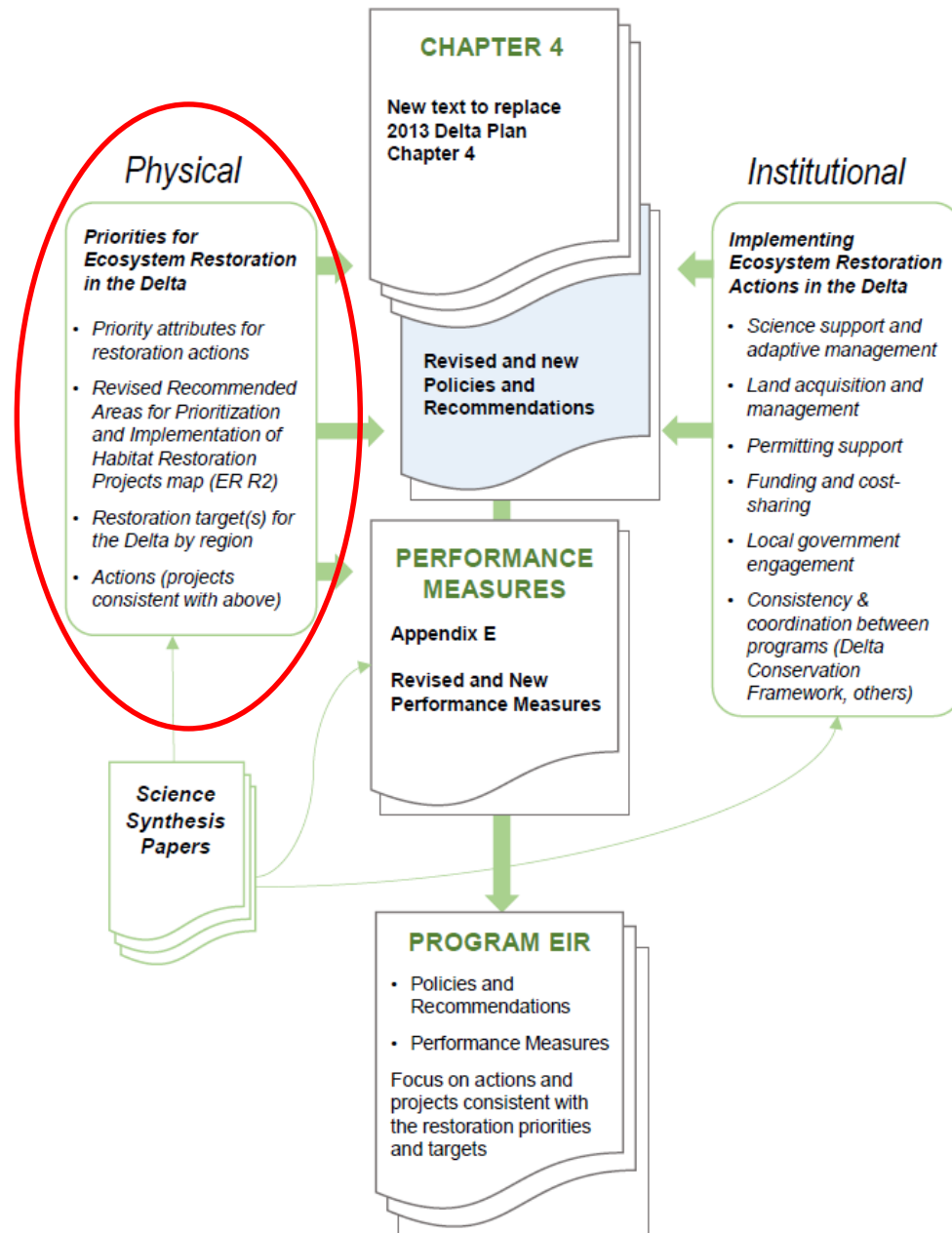
Refining the core strategies:

- Integrate climate change considerations, resiliency concepts, and strategies
- Describe how restoration can engage and benefit society – including integration of social benefits as part of restoration planning
- Identify strategies to better define, study, and incorporate adaptive management in best management practices on agricultural lands
- Provide function-based quantitative targets for ecosystem restoration
- Identify strategies to address implementation challenges

Ecosystem Amendment Blueprint



Ecosystem Amendment Blueprint



Policy Questions for Consideration

- **Achieving the Delta Reform Act Vision for the Ecosystem**
- **Emphasis on Ecosystem Function**
- **Sea-level Rise and Subsidence**
- **Leveraging Recovery and Conservation Plans**
- **Identifying Restoration/Conservation Opportunity Regions**

Panel Part 1: Linking Science to Ecosystem Restoration Priorities

- **Letitia Grenier, Ph.D.**, the importance of considering the history and ecology of the Delta for the Restoration of a healthy ecosystem
- **Gerrit Plantenkamp, Ph.D.**, common and priority attributes of restoration actions within the Delta
- **Stuart Siegel, Ph.D.**, sea-level rise and implications for restoration